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TRANSLATION

FORWARD TO MARS

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FOREIGN TECHNOLOGY DIVISION

AIR FORCE SYSTEMS COMMAND

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FORWARD TO MARS

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FORWARD TO MARS

The planet earth is occupied today with its daily terrestrial labor. Along the streets of cities scurry autos and trolleys; people hasten about their business, work, rest, read books, leaf through newspapers with the latest news. But somewhere far from earth, measuring off the cosmic versts, the scientific station, Mars I, flies, a new wonder of Soviet science and technology.

On the twelfth of November was held a routine communication session with the automatic interplanetary station Mars I. On commands sent from the distant space communication center, transmitters on board were turned on, measurements of trajectory were performed, and telemetric information was received. It showed that temperature and pressure in the shell of interplanetary station Mars I was within the prescribed limits: solar and chemical batteries were working normally. At the instant of the communications session station Mars I was 3,650,000 kilometers away from us.

Here is what Yuriy Pavlovich, scientific worker at the Shternberg State Astronomical Institute and candidate in physico-mathematical sciences, told Izvestiya's correspondent in connection with this TASS report:

"Each communications session with station Mars I brings to earth new information from these depths of interplanetary space not yet studied by rockets.

"The first communications sessions enabled us to determine the position of station Mars I in space and the actual trajectory on which it traveled out. In succeeding sessions instruments will send to earth data from the whole gigantic trajectory of the rocket and will bring into research centers interesting news on the composition of the interplanetary environment. Columns of figures, curves of graphs, and diagrams will give a distinctive map of the first journey to Mars."

What can and should the rocket investigate on this journey?

"The automatic interplanetary station going to Mars will first investigate space between the orbits of earth and Mars in a direction away from the center of the solar system.

"Before the beginning of the space era the investigation of zodiacal light, and observation of meteors and star showers were the only ways to investigate interplanetary dust. Space rockets enable us to carry out direct calculations, measure, and sort according to weight all particles of interplanetary dust encountered in space. Near earth meteorites are seldom encountered, but that is not the case beyond the limits of the earth's orbit where the rocket will fly. Between the orbits of Mars and earth several asteroids also move. One of them, Hermes, approaches our earth at a distance of half a million kilometers.

"On its journey the station can in addition determine the intensity of the solar stream of corpuscles in that region and the strength of the magnetic field near Mars. In a word, Mars I will give us many-sided data on the environment in space.

"The journey which lies before the space rocket, the first to go toward Mars, is huge. Almost seven months will pass before it reaches the vicinity of Mars. When the automatic interplanetary station passes near Mars that planet will be photographed and radio will transmit the photos to earth".

What will these photographs give us?

"They may finally open the door a bit on the secret of the Martian 'canals'; the structure of the dark 'sea' surfaces may be revealed in more detail. The automatic interplanetary station can photograph Mars from various points, while from earth we get photographs of Mars in the form of a full disk or slightly oval. It will be possible to clarify the actual degree of smoothness of the surface of Mars. It is also important to get photos of the surface of Mars through various colored filters. The automatic interplanetary station will be able to get a good image of the Martian moons; and, you know, up till now scholars have been able to observe them even through the most powerful telescopes only as luminous dots.

"The first messenger sent toward the planet Mars is bringing us a new range of information on space and on our interesting neighbor. Even right now from on board the station is coming information on the accurate functioning of the scientific instruments, on the conditions in space around the station, and on its position in space."

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